

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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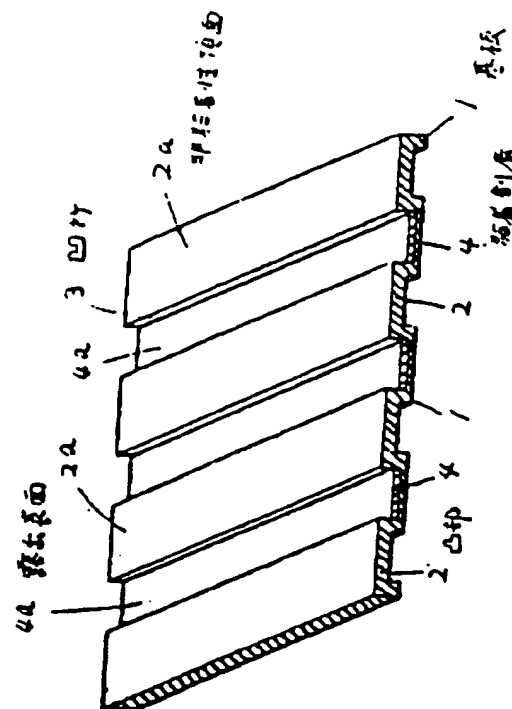
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INT.CL : C09J 7/02 C09J 7/02

TITLE : TACKY ADHESIVE DEVICE



**ABSTRACT :** **PURPOSE:** To obtain a tacky adhesive device exhibiting tackiness only when the device is strongly pressed against a surface and exhibiting no tackiness in the case of simply contacting to a surface by forming a recess placed between or surrounded by protrusions having non-adhesive apices.

**CONSTITUTION:** A number of linear protrusions 2 are arranged in parallel on the surface of a substrate 1 made of paper, etc., and a tacky adhesive layer 4 is formed in recesses 3 between or surrounded by the protrusions 2. The protrusion 2 has a non-adhesive apex 2a and the exposed surface 4a of the tacky adhesive layer 4 is positioned below the level of the apex 2a.

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## JAPANESE PATENT OFFICE

## PATENT JOURNAL

KOKAI PATENT APPLICATION NO. HEI 3[1991]-2292

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## ADHERING DEVICE

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[There are no amendments to this patent.]

Claim

An adhering device characterized by the fact that recesses located between projections having nonadhesive tops are installed on the surface of a substrate, and adhesive layers for placing exposed surfaces below the nonadhesive tops mentioned previously are provided inside the recesses mentioned previously.

Detailed explanation of the invention

Industrial application field

The present invention relates to an adhering device that avoids adhering a material on light contact on the surface and adheres a material that is strongly pressed with some deformation.

Prior art

Adhesive pasteboards capable of adhering paper without using an adhesive [agent] are widely known in photographic albums, etc. These adhesive pasteboards not only exhibit adherence of

photographs, memos and other paper placed on their surfaces, but also exhibit appropriate adherence even after the removal of adhered paper.

#### Problems to be solved by the invention

Since these adhesive pasteboards adhere all materials that contact their surface, as long as the surface is not covered with a transparent film or other form-holding paper, multiple sheets cannot be stacked and they cannot be placed on a desk with surface-side down. They are used as adhesive boards to prevent the scattering of memos, notes, etc., during the sticking and removal of the memos, notes, etc., there is trouble in that it is necessary to peel the form-holding paper mentioned previously one by one.

#### Means to solve the problems

The adhesive device of the present invention is constituted so that recesses located between projections having nonadhesive tops are installed on the surface of a substrate, and adhesive layers for placing exposed surfaces below the nonadhesive tops mentioned previously are provided inside the recesses mentioned previously.

#### Function

Since the adhesive layers are located inside the recesses located between projections having nonadhesive tops and their

exposed surfaces occupy a position lower than the nonadhesive tops mentioned previously, the recesses mentioned previously become a barrier with respect to memos, notes and other paper by simple contacting on the surface, and adherence is not exhibited. On the other hand, for memos, notes and other papers pressed strongly on the surface, part of them is somewhat deformed and contacts the adhesive layers introduced inside the recesses mentioned previously. A selective action can be obtained in which materials are lightly contacted on the surface are not adhered and materials that have been strongly pressed to cause some deformation at the recesses are adhered. Furthermore, since the projections mentioned previously act as nonadhesive spacers, multiple sheets may be stacked and they can also be placed on a desk or the like surface-side down.

#### Application examples

Next, the present invention will be explained in detail with application examples and figures.

The adhesive pasteboard as the adhesive device shown in Figure 1 has multiple, linear projections (2) arranged in a mutually parallel manner on the surface of a substrate (1) made of a strong paper or the like. Adhesive layers (4) are provided inside recesses (3) located between projections (2). However, the projections (2) have nonadhesive (2a) and the exposed surface (4a) of the adhesive layer (4) occupies a position lower than the top (2a).

If a memo, note or other paper (5) is strongly pressed with a finger or the like with respect to the surface of the adhesive

pasteboard constituted in this manner, as shown in Figure 2, part of the paper (5) enter the recesses (3) while it is being somewhat deformed by the projections (2). It is adhered by contacting the adhesive layer (4). However, if the paper (5) is simply contacted with the surface of the adhesive pasteboard, the deformation as described previously does not occur and [the paper] does not stick to the adhesive pasteboard.

In the application example described previously, projections (2) were made in a linear shape. However, as shown in Figure 3, they may be bent into a wave shape, a zigzag shape, etc. In this case, the barrier effect due to the projections can be secondarily strengthened. Furthermore, the projections (2) may also be intermittent with notches midway. They may also be in a net shape. The material of the substrate (1) is not restricted to paper. Synthetic resin sheets, thin metal sheets and so on are also acceptable. By the implementation of press processing of these or pasting of the sheets or the like, projections (2) and recesses (3) can be formed. The width of the recesses (3) is 2 mm to 10 mm, preferably 2 mm to 5 mm. The depth of the projections (2) from the surface to the exposed surface of the adhesive layer (4) is appropriate at 0.1 mm to 2 mm or so. Furthermore, the substrate itself may also be made into an adhesive layer.

An application example for using the present invention in a scrap book, a receipt book or other notebooks is shown in Figure 4. The paper substrate (6) forming the left page of this notebook has multiple projections (7) arranged in horizontal lines. The exposed surface of the adhesive layers (9) installed inside the recesses (8) located between the projections (7) occupies a position lower than the nonadhesive tops of the projections (7).

On the other hand, the paper substrate (10) forming the right page of this notebook has multiple projections arranged in vertical lines. The exposed surface of the adhesive layer (13) installed inside the recesses (12) located between the projections (11) occupies a position lower than the nonadhesive tops of the projections (11).

The fact that the notebook constituted in this manner adheres only when a memo, note or other paper is strongly pressed on the paper surface is the same as that described previously. Even if they are closed without sticking of the paper, the nonadhesive tops of both the projections (7) and (11) intersect and contact only. Therefore, the adhesive layers do not adhere to each other.

An application example using the present invention in an envelope or a bag is shown in Figure 5. In this case, the folding part (15) of an envelope (14) made of paper or a soft synthetic resin is used as a substrate described previously. The projections (16) and recesses (17) as described previously are provided. The exposed surface of the adhesive layer (18) provided inside the recesses (17) occupies a position lower than the nonadhesive tops of the projections (16). In this case, by strongly pressing the folding part (15) on the region (19), the adhesive layer (18) is deformed and protruded, and sticks to the region (19). On the other hand, of course, it is also acceptable to provide projections, recesses, and adhesive layers as described previously on the region (19) side.

In the application example shown in Figure 6, multiple thin sheets (21) are stuck on the surface of a flat sheet (20) to form projections, and an adhesive layer (22) is provided inside the



recesses located between the sheets (21). Furthermore, multiple thin sheets (23) are also stuck to form projections on the reverse side of the flat sheet (20) so that both sides can be used. An adhesive layer (24) is provided in the recesses located between the sheets (23). In this case, it is also acceptable to coat and uniformly form an adhesive layer beforehand on the entire surface of the flat sheet (20), stuck film-shaped thin sheets (21) and (23) on part of this adhesive layer, and expose the adhesive layer in the remaining regions.

For the material of an application example shown in Figure 7, circular recesses (26), annular recesses (27), diamond-shaped recesses (28) and heart-shaped recesses (29) are made on the surface of a substrate (25), and an adhesive layer is provided in each of the recesses. In this case, it is also preferable to form the substrate (25) as an adhered body of the reverse side of the sheet and the front side of the sheet. In other words, with respect to the adhesive layer formed by uniform coating on the surface of the reverse side of the sheet, the film-shaped front side of the sheet having circular holes and so on is adhered to form a double structure substrate. The projections, recesses and adhesive layers inside the recesses can be easily formed.

For the materials in application examples shown in Figures 8 and 9, the adhesive layers (31) inside the recesses are covered with peelable paper (30) having a surface layer of wax, a silicone oil or the like so that dust and the like will not adhere to the adhesive layers inside the recesses. Furthermore, the substrate is made into a film shape. Since the adhesive layer (32) is also provided on its reverse side, it can be adhered to an material. The peelable paper is stripped off during use.

## Effects of the invention

According to the invention as described previously, it is possible to obtain an adhering device that does not adhere a material on light contact on the surface and only adheres a material that is strongly pressed on the surface. Multiple sheet may be stacked, and they may also be placed on a desk or the like with their surface side down. They can be applied in the organization of memos, notes, newspaper and so on, as well as envelopes and so on to avoid unintended adherence other than during sticking. An excellent practical effect can be achieved.

## Brief description of the figures

Figures 1 through 8 show the application examples of the present invention. Figure 1 is a partial isometric cross-sectional diagram of an adhering device. Figure 2 is a side cross-sectional diagram showing an application example of the same device. Figure 3 is a planar diagram for the case in which the projections are formed in a wave shape. Figure 4 is a planar diagram for the case in which it is constituted in a notebook. Figure 5 is a planar diagram for the case in which it is applied to an envelope. Figure 6 is a side cross-sectional diagram for the case in which it is constituted in a two-sided form. Figure 7 is a planar diagram of another application example. Figures 8 and 9 are isometric diagrams of other application examples.

- 1 Substrate
- 2,7,11,16 Projections
- 2a Nonadhesive top
- 3,8,12,26,27,28,29 Recesses
- 4,9,13,18,31 Adhesive layers
- 4a Exposed surface
- 5 Paper

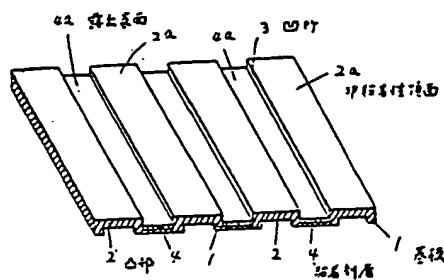


Figure 1

- Key:
- 1 Substrate
  - 2 Projection
  - 2a Adhesive top
  - 3 Recess
  - 4 Adhesive layer
  - 4a Exposed surface

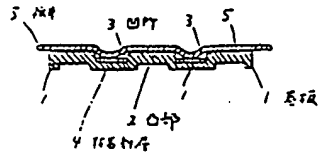


Figure 2

Key: 1 Substrate  
 2 Projection  
 3 Recess  
 4 Adhesive layer  
 5 Paper

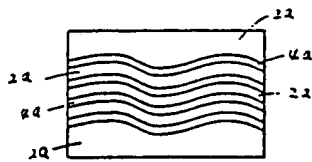


Figure 3

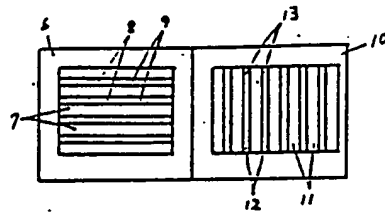


Figure 4

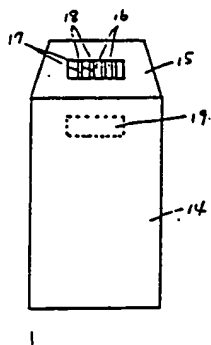


Figure 5

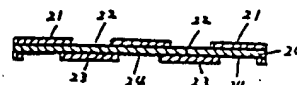


Figure 6

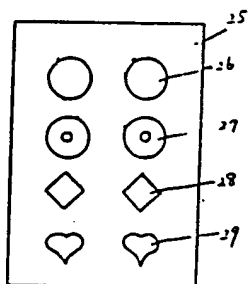


Figure 7

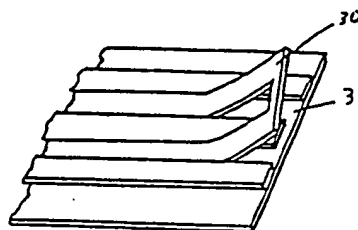


Figure 8

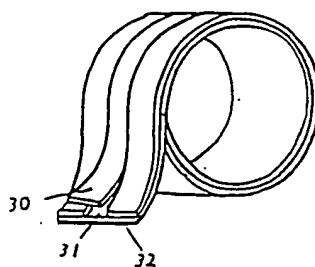


Figure 9

[Key for Figures 3-9]

Key: 1 Substrate  
 2, 7, 11, 16 Projections  
 2a Nonadhesive top  
 3, 8, 123, 26, 27, 28, 29 Recesses  
 4, 9, 13, 18, 31, 32 Adhesive layers  
 4a Exposed surface  
 5 Paper  
 6, 10 Paper substrates